

BACKGROUND

Acme Distributors is building an enterprise document processing engine that will receive documents from all their trading partners. These documents need to be processed synchronously (processed as they are submitted) and a response returned to the sender indicating success or failure of processing and any other result information.

REQUIREMENTS

Since Acme Distributors plans on growing their business in the future, they want their document processing system to be extensible so it doesn't need to be rebuilt every time a new document type is added. Their real concern is a situation where adding support for a new document type will break other document types. Anything that can be done to alleviate that problem will help.

The document processing system also needs to be distributed, in that the clients will not be on the same machine as the server. The server needs to have at least one communication channel to submit documents for processing. In the future more communication channels will be created so the processing code should not be tied to the communication channel code. All documents submitted will be in various XML formats and all responses to the documents will also be in various XML formats, where one document type will produce exactly one response type.

A test application needs to be written to demonstrate the functionality required above. Actual document processing can be simplistic and/or random, and input and output documents are not set in stone.

The server piece is the important piece of this request. The test application can be hard-coded to send explicit documents if necessary. The document types supported can be limited to one if there is a clear demonstration of how support would be added for additional document types.

EXAMPLES

The following two documents and their associated responses must be supported by the test application.

The *ReplenishRequest* document type is used by stores to request more products from a standing order:

```
<ReplenishRequest>  
  <OrderId>123456</OrderId>  
  <ProductType>ABCDEF</ProductType>  
</ReplenishRequest>
```

The *ReplenishResponse* document type is used as a response to a *ReplenishRequest* document:

```
<ReplenishResponse>
  <!--SUCCESS, FAIL, PARTIAL -->
  <Status>SUCCESS</Status>
  <Details>Products shipping soon.</Details>
</ReplenishResponse>
```

The *GetPriceListRequest* document type is used by stores to get the current MSRP for all products Acme Distributors is responsible for:

```
<GetPriceListRequest>
  <ProductType>ABCDEF</ProductType>
  <ProductType>GHIJKL</ProductType>
</GetPriceListRequest>
```

The *GetPriceListResponse* document type is used as a response to a *GetPriceListRequest* document:

```
<GetPriceListResponse>
  <Product type="ABCDEF" price="80.00"/>
  <Product type="GHIJKL" price="99.99"/>
</GetPriceListResponse>
```